Antidepressant-like effect of aqueous extract of Channa striatus fillet in mice models of depression.

Abstract

Background and Objectives: Channa (C.) striatus (Malay-Haruan), is a fresh water snakehead fish, consumed as a rejuvenating diet in post-parturition period in local Malay population. The aqueous extract of C. striatus fillet (AECSF) was reported to act through serotonergic receptor system in a previous study. There is no scientific report on neuropharmacological effects of C. striatus. Based on these data, the antidepressant-like effect of C. striatus was evaluated in mice models of depression. Materials and Methods: AECSF was prepared by steaming the fillets as described previously. Antidepressant activity was studied in male ICR mice using forced swimming test (FST) and tail suspension test (TST). Open-field test was used to evaluate any psychomotor stimulant activity. AECSF was administered intraperitoneally at the concentrations of 30%, 40% and 50% w/v at the dosage of 10 ml/kg. Amitriptyline (10 mg/kg) was used as positive control. Results: All the three concentrations of AECSF (30%, 40% and 50% w/v) significantly reduced the immobility time ($p < 0.001$) in FST and TST. All the three concentrations of AECSF (30%, 40% and 50% w/v) significantly ($p < 0.001$) reduced locomotor activity in a dose-dependent manner in open-field test. Conclusions: AECSF produced significant reduction of immobility time in both FST and TST. Amitriptyline produced a significant reduction of immobility time in both FST and TST similar to previous findings. The AECSF produced a dose-dependent decrease in locomotor activity in the open-field test. This hypolocomotion effect indicated the absence of any psychomotor stimulant activity thereby supporting the antidepressant-like effect of the AECSF. The pharmacological mechanisms of the observed antidepressant-like effect and hypolocomotion effect are not understood from our study. Hence, further studies are required.

Keyword: Antidepressant-like effect; Channa striatus; Forced swimming test; Haruan; Tail suspension test.